21 When implementing linear regression of some dependent variable y on the set of independent variables **x** = (x_1, ..., x_r), where r is the number of predictors, which of the following statements will be true?

- $\beta_0, \beta_1, \ldots, \beta_r$ are the **regression coefficients**.
- Linear regression is about determining the **best predicted weights** by using the **method ofordinary least squares**.
- E is the random interval
- Both a and b

Ans -Both a and b

22)

What indicates that you have a **perfect fit** in linear regression?

- The value $R^2 < 1$, which corresponds to SSR = 0
- The value $R^2 = 0$, which corresponds to SSR = 1
- The value $R^2 > 0$, which corresponds to SSR = 1
- The value $R^2 = 1$, which corresponds to SSR = 0

Ans -The value $R^2 = 1$, which corresponds to SSR $= 0$

23)

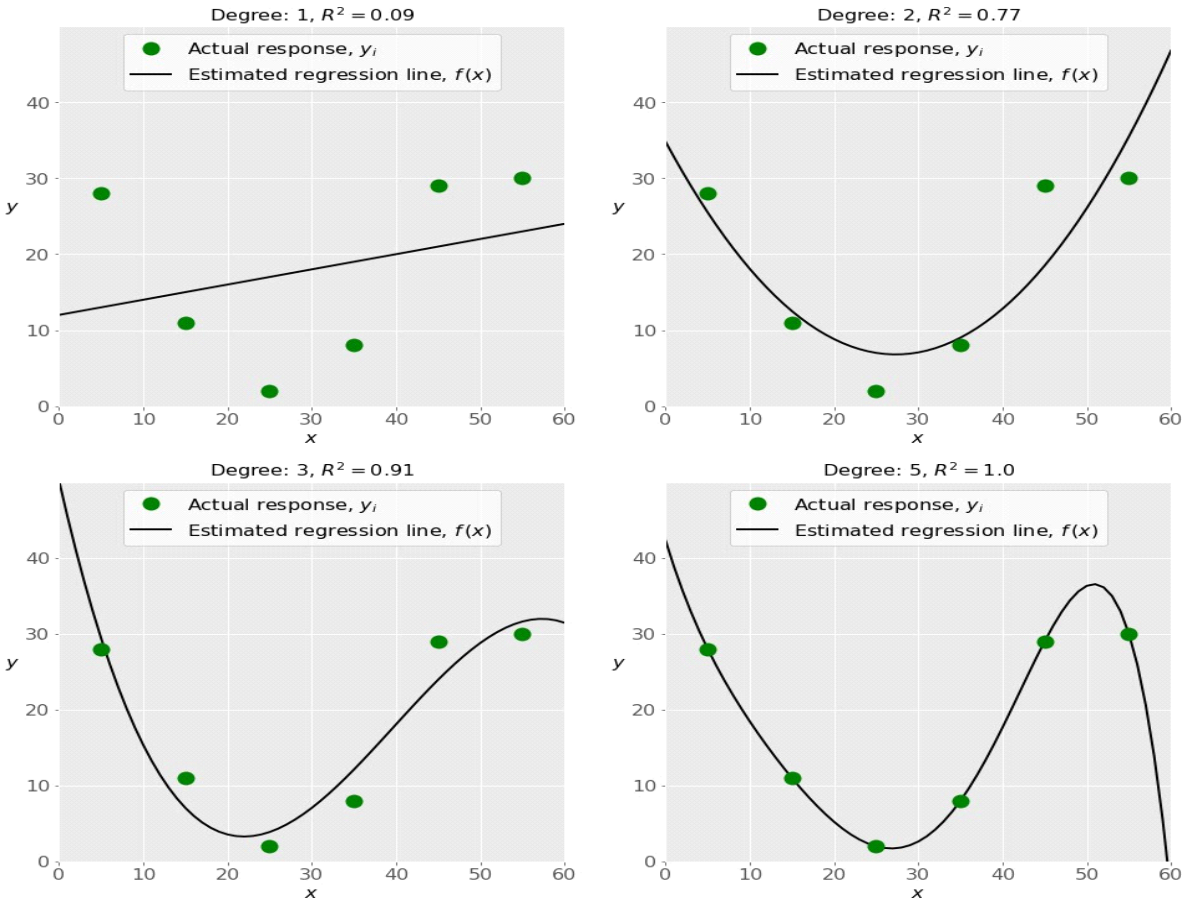
In simple linear regression, the value of **what** shows the point where the estimated regression linecrosses the y axis?

- Y
- B0
- B1
- F

Ans - B0

24)

Check out these four linear regression plots:



Which one represents an **underfitted** model?

- The bottom-left plot
- The top-right plot
- The bottom-right plot
- The top-left plot

Ans - The top-left plot

25) There are five basic steps when you're implementing linear regression:

- **a.** Check the results of model fitting to know whether the model is satisfactory.
- **b.** Provide data to work with, and eventually do appropriate transformations.
- **c.** Apply the model for predictions.
- **d.** Import the packages and classes that you need.
- **e.** Create a regression model and fit it with existing data.

However, those steps are currently listed in the wrong order. What's the correct order?

- e, c, a, b, d
- e, d, b, a, c
- d, e, c, b, a
- d, b, e, a, c

Ans - b) e, d, b, a, c.

26) Which of the following are optional parameters to LinearRegression in scikit-learn?

- Fit
- fit_intercept
- normalize

- copy_X
- n_jobs
- reshape

Ans - copy_X and e) n_jobs

27)While working with scikit-learn, in which type of regression do you need to transform the array of inputs to include nonlinear terms such as x^2?

- Multiple linear regression
- Simple linear regression
- Polynomial regression
- Ans -Polynomial regression

28)You should choose statsmodels over scikit-learn when:

A)You want graphical representations of your data.

- You're working with nonlinear terms.
- You need more detailed results.

- You need to include optional parameters.

Ans - You need more detailed results

29) ____is a fundamental package for scientific computing with Python. It offers comprehensive mathematical functions, random number generators, linear algebra routines, Fouriertransforms, and more. It provides a high-level syntax that makes it accessible and productive.

- Pandas
- Numpy
- Statsmodel
- scipy
- Ans -Numpy

30)_____is a Python data visualization library based on Matplotlib. It provides a high-level interface for drawing attractive and informative statistical graphics that allow you to explore and understand your data. It integrates closely with pandas data structures.

- Bokeh
- Seaborn
- Matplotlib
- Dash

Ans - Seaborn